

**ECOLOGICAL IMPACTS ASSESSMENT
OF
THE APPLICATION OF
THE CONNECTICUT LIGHT AND POWER COMPANY
AND
THE UNITED ILLUMINATING COMPANY
TO THE CONNECTICUT SITING COUNCIL**

Docket Number 272

For a

**345-kV TRANSMISSION LINE
THROUGH THE TOWN OF WOODBRIDGE, CONNECTICUT**

**PREPARED FOR:
THE TOWN OF WOODBRIDGE, CONNECTICUT**

May 21, 2004

EXECUTIVE SUMMARY

The Application submitted by CL&P and UI proposes to upgrade the existing 115-kv transmission line to include a 345-kv line. We reviewed the Application materials and walked the entire right of way within Woodbridge and provide this evaluation of existing resources and proposed impacts. We identify numerous pole installation/construction and access road impacts that will occur in connection with the proposed overhead route. Using information provided in the Application, we determined that the upgrade could result in approximately 7.3± acres of temporary wetland disturbance and 4.3± acres of wetland fill in Woodbridge. In addition, the proposed overhead route will cross 15 watercourses.

The Application states that no vernal pools are located within the existing ROW through Woodbridge. However, this evaluation provides data to the contrary and states that five (5) well functioning vernal pools and an additional amphibian breeding area exist. In addition, it is our opinion that many of the wetland systems along the right of way are more valuable than described in the Application materials.

The submitted data do not support the conclusion in the Executive Summary of Volume 1 of the Application that “the project will not result in any significant long-term adverse environmental impacts.” The data indicate that significant long and short term impacts to sensitive natural resources will occur.

The State Species of Special Concern red-shouldered hawk (*Buteo lineatus*) has been confirmed to breed on or near the Regional Water Authority property which includes Glen Dam Reservoir. This species is also reported by the Connecticut Department of Environmental Protection’s Natural Diversity Database (NDDDB) to occur in the vicinity of Glen Lake in Woodbridge, which will be crossed by the proposed overhead transmission line. Other areas have been identified in the proposed overhead route as suitable habitat for the State Species of Special Concern eastern box turtle. A box turtle was identified by the Applicant’s consultant, SSES, in wetland 125 and a dead carapace from a box turtle was found by Land-Tech Consultants in Wetland 130.

It should be made clear that not all impacts can be effectively mitigated or restored and avoidance is always a preferred alternative.

The data provided in the Application as well as the additional data collected through our investigation indicate that an underground alternative along public roads provides the best protection of sensitive environmental resources in Woodbridge.

INTRODUCTION

Land-Tech Consultants, Inc. was retained by the Town of Woodbridge, Connecticut to evaluate The Connecticut Light and Power Company’s (CL&P) and United Illumination’s application (hereby referred to as Application) to the Connecticut Siting Council. This Application is to construct a 345-kV electric transmission line from Middletown to Norwalk through 6.2± miles of the Town of Woodbridge. The focus of Land-Tech Consultant’s investigation was to evaluate the Application and determine if it adequately characterizes the natural resources and the potential impacts along the overhead Right-of-Way (ROW).

This evaluation was based on data collected during an on-site investigation of the ROW from the Bethany/Woodbridge town line to the Woodbridge/Orange town line and a review of the following materials.

- “Application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for a 345-kV Electric Transmission Line Facility and Associated Facilities Between Scovill Rock Switching Station in Middletown And Norwalk Substation in Norwalk”. Volume 1 of 12, dated October 9, 2003.
- “Wetland and Waterways Description Report Electric Transmission Line Facility Between Scovill Rock Substation in Middletown and Norwalk Substation in Norwalk”, dated April 2003.
- “Amphibian Breeding Survey Electric Transmission Line Facility Between Scovill Rock Substation in Middletown and Proposed East Devon Substation, Milford, CT” by Soil Science and Environmental Services.
- “Analysis of Potential Impacts to Bird Species along the Proposed Middletown to Norwalk 345-kV Transmission Line” by Phenix Environmental Inc.
- Federal, State and Municipal Agencies Correspondence
- “Application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for a 345-kV Electric Transmission Line Facility and Associated Equipment. Aerial Photographs Overhead Portion – 400 Scale” Segments 30-35 Volume 9 of 12.
- “Application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for a 345-kV Electric Transmission Line Facility and Associated Equipment. Typical Cross Section, Typical Cross Section Details, Plan & Profile Drawings”, Volume 10 of 12.
- “Application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for a 345-kV Electric Transmission Line Facility and Associated Equipment. Aerial Photographs Overhead Portion – 100 Scale” Segments 104-126 Volume 11 of 12.
- Personal Communication with Dr. Christopher Loscalzo, past president of New Haven Bird Club and compiler of New Haven Christmas Bird Count.
- Letter to Pamela B. Katz, Chairman Connecticut Siting Council from Jane K. Stahl Deputy Commissioner of the Connecticut Department of Environmental Protection, dated May 4, 2004.
- Hearing testimony of Ms. Benkinney at the Connecticut Siting Council in Docket 272 on April 21, 2004.
- Responses To First Set Of Interrogatories Of The Connecticut Light And Power Company Directed To Town Of Woodbridge

As part of its proposal, CL&P and UI are proposing to remove the 3 existing 115-kV structures and replace them with one 115-kV steel monopole and one 345-kV steel pole utilizing a delta configuration. The 115-kV steel monopole would be a typical height of

80 feet and the 345-kV delta structure is proposed to be a typical height of 85 feet. The Application states that current ROW widths in Woodbridge are adequate and no ROW width expansion is proposed. Vegetation within the ROW will need to be cleared to 12 feet high within 11 feet of the 115-kV line and 16 feet high within 15 feet of the 345-kV line.

METHODS

In order to conduct a thorough evaluation of the submitted documents, Chris Allan (Professional Wetland Scientist, Registered Soil Scientist) and Tom Ryder (Biologist) of Land-Tech Consultants, Inc. walked the ROW from the Bethany line to the Orange town line on March 11 and 22, 2004. The objective of this exercise was to identify significant or sensitive natural resources and compare these resources with the descriptions provided in the Application and assess ecological impacts.

Each pole segment along the ROW and the adjacent properties was inspected to identify the following: 1) the presence of wetlands and watercourses, 2) community types supported, 3) dominant vegetation, 4) suitability of existing and potential access routes, and 5) potential impacts to natural resources. Potential impacts associated with ROW modifications include: wetland filling, access road upgrades, vegetation clearing, erosion and sedimentation, water quality reduction and amphibian and bird breeding impacts as well as impacts to species of special concern. These data were then compared to the data provided in the Application and evaluated.

FINDINGS

The following concerns were identified. They are presented by habitat category. Segment numbers provided refer to 100 scale aerial photographs (Volume 11, Segments 104-126).

Wetland Assessments

Wetland #123

The Glen Dam Reservoir was rated by Soil Science and Environmental Services (SSES), on behalf of the Applicant to be of moderate functional quality for wildlife habitat, finfish habitat, visual/aesthetic quality and low quality for flood control and nutrient & sediment removal efficiency. A relatively large water body with adjacent upland mature woods and upland meadows provide an assemblage of diverse habitats for wildlife including the common red-tailed hawk, the red-shouldered hawk (Species of Special Concern) and other predators that forage on fish in the reservoir. We disagree with SSES's rating of this system. This system should be rated as high or moderate/high for habitat and aesthetics. The reservoir has the ability to store flood waters behind its dam thus providing effective flood control. This water body should also be rated as moderate for nutrient & sediment removal efficiency due to the dam's capability to trap and settle out sediment particles.

Wetland #131

This is a very large system comprising diverse ecological habitats including 12" to 24" tall hummocks; wet meadow (near pole 3928) providing suitable habitat for eastern box turtles (a Species of Special Concern, see page 11 for description) and spotted turtles if

local populations exists; large pools of standing water which could provide some amphibian breeding habitat; boulder fields for reptile basking; and dense scrub shrub for escape cover and food sources. The low-moderate rating for flood control and nutrient & sediment removal efficiency provided by SSES is too low. The large wetland system is fairly level and provides excellent flood storage capacity. The low ratings provided by SSES for Nutrient & Sediment retention opportunity and noteworthiness are also too low. This wetland is downgradient of a public road providing ample sediment retention opportunity and the boulder field/hummock/dendritic flowing water creates a valuable system worthy of note. This wetland should be rated as moderate-high for these functions.

Wetland #133

Wetland 133 is the largest wetland located within the ROW in Woodbridge. We differ on the wetland functional quality assessment provided by the applicant. The system is large containing a diverse assemblage of vegetative communities and wildlife habitats. Undisturbed wooded uplands border it providing additional habitat and continuity of the corridor. The wetland system contains Race Brook which is a DEP stocked trout stream. It possesses a large flood plain area capable of storing overbank flows from Race Brook and protecting downstream areas from flooding. The large size, dense vegetation, contiguous uplands, and variable habitat provide excellent wildlife habitat.

We believe this wetland should be rated high for flood control, nutrient and sediment retention and wildlife habitat rather than moderate or moderate high as rated by the Applicant.

Amphibians/Vernal Pools

SSES identified no wetlands with high amphibian breeding potential, three wetlands with moderate amphibian breeding potential (Wetlands 125, 133 & 138), and no vernal pools in the Town of Woodbridge. Our investigation identified several areas of high amphibian breeding potential and five (5) confirmed vernal pools in Woodbridge.

Land-Tech Consultants walked the entire ROW through the Town of Woodbridge on March 11 and 22, 2004. Potential vernal pools identified during this investigation were inspected on April 14, 2004 to obtain detailed information on each system to determine if they meet the definition of a vernal pool.

A widely accepted vernal pool definition is presented in A Guide to the Identification and Protection of Vernal Pool Wetlands of Connecticut published by the University of Connecticut, Cooperative Extension System. A vernal pool:

- ⊖ Contains water for approximately two months during the growing season;
- ⊖ Occurs within a confined depression or basin that lacks a permanent outlet stream;
- ⊖ Lacks any fish population; and
- ⊖ Dries out most years, usually by late summer.

In addition to these physical characteristics, the presence of certain animal species is used to confirm the existence of a vernal pool. Some species are considered obligate vernal pool species meaning that they rely entirely on vernal pools for breeding and early

development. The presence of obligate species is also used to evaluate the functionality and quality of the vernal pool. These species include: spotted salamander (*Ambystoma maculatum*), Jefferson salamander (*Ambystoma jeffersonianum*), marbled salamander (*Ambystoma opacum*), wood frog (*Rana sylvatica*), eastern spadefoot toad (*Scaphiopus h. holbrookii*) and the fairy shrimp. The presence of one or more of these species confirms the pool as a “vernal pool” and, therefore, increases the relative function or value of the pool.

Each pool was investigated using observation and dip netting methods. The pool’s physical and biological characteristics such as depth, shoreline vegetation, shade cover, and substrate were recorded as well as the presence of obligate species or evidence of breeding (egg masses).

Our investigation identified the following:

- A well functioning amphibian breeding area is located in Wetland 122 just west of pole 3957 (Segment 106) (Photo #1, appended). This pool is just beyond the western ROW border. This breeding area is part of a larger red maple swamp with a watercourse discharging to the southeast. The depth of the system is variable ranging 12” to 18” after two days of heavy rain. Two spotted salamander egg masses were identified in this wetland system. The system is a red maple swamp with approximate 6” to 12” hummocks. The system does not meet the definition of a vernal pool as it does not contain a defined basin and it contains a discharge channel. However, this pool is just down gradient of the existing access road and could receive sediment from upgradient disturbance.
- A vernal pool exists in wetland 124 along the eastern side of the ROW approximately 10 feet east of the proposed location of pole 3950 (Segment 109) (Photo #2). The pool consists of a shallow (6” to 12”) northern area and a deeper (12”-24”) grass-hummock wetland adjacent to a row of hemlock which provide partial shade (See photos #1 and #2 in the Appendix). The pool supports grasses, and pitcher plants. The pool is part of a larger hummock system. Forty-two spotted salamander egg masses were observed throughout the pool (See Photo #3). Numerous spring peepers were heard and observed in the southern hummock community. The pool is in a defined basin that lacks a permanent inlet or outlet channel. The pool is expected to dry up during the summer months and may remain inundated long enough to support spotted salamander development. The location of the proposed construction square and proposed removal of pole set 3950, which is within 15 feet of the vernal pool, raises concerns of how much this pool will be impacted by the transmission line upgrade.
- A vernal pool was identified just north of poles 3931 and 5131 in Wetland 130 (Segment 116) (Photo #4). The pool is situated in a local depression which supports a dense scrub/shrub community (See Photos 3 and 4). The pool is small in size at approximately 30 feet in diameter and contained approximately 12” to 24” of standing water during our March 14, 2004 site walk. The pool is directly adjacent to pole 5131, with the guy wire anchor located within the pool. The ROW to the east of the pool has been recently disturbed to bare soil as a result of a timber access road. It is unclear if the size of the vernal pool was changed as a result of the access road.

Three wood frog egg masses were identified in the pool. Additional egg masses may be present within the dense shrubs.

- A vernal pool was observed bordering a proposed construction square in the center of the ROW within Wetland 133, approximately 100 feet south of pole 3918 (between poles 3917 and 3918) (Segment 121) (Photo #5). The pool was approximately 50 feet in diameter and contained 12" to 24" of standing water during the site walk. Aquatic vegetation included Juncus, cattail, iris, pitcher plant and the initial growth of algae and duckweed. The shoreline was vegetated with shrubs and grasses. The pool is located directly under the transmission lines and therefore is not shaded, receiving full sun. The pool is surrounded by a larger hummock scrub shrub wetland system, see Photo #5. The pool contained approximately 40 wood frog egg masses along the northern shoreline. This system is a confirmed well functioning vernal pool and should be protected. The location of the proposed construction square and proposed removal of pole set 5117, which is within 50 feet of the vernal pool, raises concerns of how much this pool will be impacted by the transmission line upgrade.
- A vernal pool was identified just north east of pole 3917 in Wetland 133 (Segment 122) (Photo #6). This pool is located along the eastern edge of the ROW between poles 3917 and 3918. The pool is characterized as an open water/tussock sedge community with a shrub boundary that is bordered by the scrub/shrub wetland community under the transmission line and the red maple wetland community east of the ROW. (See photo # 6) The water was approximately 12" to 18" deep during the site visit. Two wood frog egg masses were found attached to the abundant overhanging shrubs. A few spring peepers were heard calling from the pool. The pool has no permanent outlet or inlet, but receives water from the larger wetland system. The pool will dry up during the summer months and is expected to contain standing water long enough to support complete wood frog development. The proximity to existing pole 5116 (to be removed) and the replacement pole to be installed, raises concerns about suitable erosion and sediment impacts and disturbance of existing shrubs and tree canopy around the pool.
- A vernal pool was located in Wetland #138 between poles 3907 and 3908 (Segment 125). A moderate to large wood frog chorus and small peeper chorus was heard emanating from this large marsh/scrub-shrub wetland. The larger wetland system is suitable habitat for the State Species of Special Concern eastern box turtle.
- The SSES Amphibian Breeding Survey indicates egg masses were identified within wetlands 125 and 127 but did not specify which species were found or specifically where. Species of egg mass is important to predict what characteristics are needed for their survival. Different species require different inundation periods (hydroperiods) and development times and require different habitat for suitable adjacent upland migration routes. These species should be identified.

Wetland and Watercourse Impacts

Pole Removal, Construction

- Removal and replacement of existing pole 3962 (Segment 104) will result in the disturbance and filling of Wetland #121.

- New pole 3950 is proposed within 10-15 feet of a confirmed vernal pool and Wetland 124 (Segment 109). Construction of the new pole will result in filling a portion of the wetland and the vernal pool.
- Existing pole 5150 is located within Wetland 124 (Segment 109). Removal of this pole will require disturbance to Wetland 124.
- The construction zone and fill envelope for Pole # 3947 lies partially within Wetland 125 (Segment 110).
- New pole 5144 is proposed within Wetland 127 (Segment 111), and will result in wetland filling.
- Existing lattice tower 2408 is located along the border of Wetland 128 (Segment 112). Removal of this tower will require disturbance to Wetland 128.
- A vernal pool was identified in Wetland #130, directly north of pole 5131 (Segment 116). A guy wire for pole 5131 is located within the pool. This pool will be disturbed by the installation and removal of the poles.
- Existing pole 3928 (Segment 118) is located within Wetland 131. Pole removal and replacement would require significant wetland disturbance to this well functioning system.
- Poles 3924 and 5124 and their proposed replacements are located within wetland 133 (Segment 119). A proposed pulling site is also proposed in this wetland. There is no suitable existing access to this area. Therefore, this area is going to require a significant amount of upland and wetland disturbance. The access to this area is either from Rimmon Road or B'Nai Jacob parking lot. According to the Application documents, pulling sites can disturb up to 1 acre of land; in this case a functional wetland system.
- The removal of pole 3915 and installation of proposed replacement poles which are located adjacent to Wetland 134 (Segment 122) will likely require wetland disturbance.
- Removal of pole 3914 and lattice 2386 will require wetland disturbance (Segment 123).
- Installation and removal of poles 3908 will require disturbance of Wetland 138 (Segments 124 & 125), which is a large diverse wetland system. This wetland contains a large functioning vernal pool system as evidenced by a moderate to large wood frog chorus. This area is also a well functioning hummock wetland system which is suitable box turtle habitat. This area should be protected from all construction impacts.

Access Roads

Section K-1 states that access roads are already in place for the existing ROW and they are expected to be used to access the pole locations to upgrade the system. A walk along the entire ROW in Woodbridge showed that many of the existing access roads are overgrown with vegetation and need to be cleared, some have steep grades that require

significant grading, and 16 wetland/watercourse crossings are required. Grading of steep slopes generally require a larger area of disturbance than is necessary over flat terrain. Grading and the associated clearing of vegetation increases the potential for erosion and sedimentation of adjacent wetlands and watercourses.

- Access road from 3949 to 3950 traverses Wetland 124 (Segment 109). Construction of the access road would require wetland filling along approximately 120 feet of the right of way.
- An access road to new pole 3951 (Segment 109) will require regrading and possibly blasting due to steep slopes.
- Access between poles 3946 and 3947 (Segment 110) requires crossing an intermittent brook and associated riparian wetland (Wetland 125). Construction of the access road will require wetland filling and a brook crossing.
- An approximate 200-foot stretch of access road between 3947 and 3948 is located within Wetland #125 (Segment 110). Construction of the access road will require wetland filling through 200 feet of the right of way.
- The right of way between poles 3945 and 3946 (Segments 110 & 111) crosses a steep ravine and watercourse. Crossing the ravine within the right of way would require a bridge and significant regrading. An alternate route through the woods would require impacts including habitat modification, wetland filling and potential sedimentation of 2 tributary brooks.
- Access between 3943 and 3944 requires traversing Wetland 127 (Segments 111 & 112) and crossing a narrow intermittent watercourse. The road also borders the wetland along the east side. Construction of the access road would require wetland filling along 120 feet of the right of way and the construction of a stream crossing.
- Removing existing lattice tower 2408 would require construction of an accessway through about 320 feet of Wetland 128 (Segment 112). This wetland is surrounded by undeveloped property owned by Northeast Utilities to the west and Woodbridge Land Trust to the east.
- An unimproved access road traverses Wetland 130 between poles 3930 and 3931 (Segment 117). Upgrading of the road, including wetland filling would be required to make it suitable for use by heavy equipment. Approximately 560 linear feet of the accessway lies within the wetland. This would require approximately 8,400 square feet of wetland fill.
- There is no existing suitable access to poles 3928 (Segment 118). These poles are located within Wetland 131. Creating suitable access will require construction of an access road up a steep grade west of Pease Road and filling approximately 180 feet through Wetland 131.
- Access to poles 3927, 2397 and 5125 (Segment 118) is from the southwest along an access road that has not been maintained and is overgrown. Access to these poles from the south would require extensive wetland filling and the crossing of a brook.

Construction of approximately 400 feet of access road, including 6,000 square feet of wetland fill, and a watercourse crossing would be required.

- Access to poles 3924 and 5124 (Segment 119) is from an old unmaintained path along the northwest wetland border. Upgrading the accessway could result in some wetland filling impacts.
- Access to poles 3923 (Segment 120) is available from Rimmon Road. Three of the four existing poles are located in the upland, however, the narrow wetland portion along the road will need to be filled to create access. One of the two proposed replacement poles is located in the wetland. There is no existing access to accommodate the removal of lattice tower 2394. Constructing an access road to lattice tower 2394 will require a brook crossing and filling of approximately 170 feet of wetland.
- Pole sets 5122, 3922 and 5121, 3921, 2393 are located within wetland 133 (Segment 120). Access to these poles would require filling of approximately 800 feet of Wetland 133.
- No suitable access exists to poles 3918, 2390 and 5117. An access is shown on segment 121 of the Application along the eastern ROW border, however, no suitable access was observed in the field. These poles are located within Wetland 133, a large, diverse and valuable wetland system. A vernal pool is located approximately 100 feet to the south of pole 3918. Approximately 600 feet of wetland will need to be filled to construct a suitable access to these poles.
- It is proposed to access poles 3908, 5107 and lattice 2383 from the Wilbur Cross Parkway (Segments 124 & 125). This section of Wetland 138 contains a large vernal pool with wood frog activity. Construction of an access road will result in the filling of approximately 150 feet of this wetland.

Water Authority Watershed Impacts

The area from the Woodbridge/Bethany town line to just south of Dillon Road is located within a public water supply watershed operated by the South Central Connecticut Regional Water Authority. This property is owned by the water authority and is restricted from public access for source water protection purposes. This area encompasses Wetlands 121, 122 and 123 (Glen Dam Reservoir). It is essential that all efforts to avoid or minimize impacts to these wetlands and associated watercourses be employed due to their water quality sensitivity as part of a public water supply. Previous surveys conducted by the Connecticut Breeding Bird Atlas Project and the New Haven Bird Club have documented that 193 bird species, of the 200 species expected to breed in the area, have been observed on or near the water authority property¹. Of the 193 species observed, 180 bird species have been confirmed nesting over several years.

Birds

Several species of birds utilize the open meadow or scrub/shrub (thickets) of the right-of-way to nest and/or forage. These species are particularly vulnerable to vegetation

¹ Forest Management Plan for the South Central Connecticut Regional Water Authority. Published by the Regional Water Authority, dated 1989.

impacts during the nesting season. Section M.3.4 of the "Potential Environmental Effects and Mitigation Measures" report states that that no vegetation clearing or management will be conducted during the breeding season (April 1 to August 15). However, a concern that has not been addressed is the impacts to the winter residents that occupy the open canopy habitats of the maintained ROW. These maintained meadows or scrub/shrub habitats are not common in Connecticut. Species known in the area that utilize these habitats in the winter include the catbird, white-throated sparrow, towhee, winter wren, tree sparrow, field sparrow (species population in major decline), yellow-rumped warbler, pine warbler and brown thrasher², which is a Species of Special Concern. Disturbance to these species and others utilizing the ROW in the winter from the construction/improving of access roads, installation/removal of poles and other activities needs to be addressed.

Threatened, Endangered or Special Concern Species

A sun bleached carapace from an adult box turtle was found approximately 75 feet east of pole 2399. The adult appeared to have died in the spring or early summer of 2003 due to its bleached appearance. It is likely that a population of box turtles inhabits the wet meadow and wooded habitat of this area.

A box turtle (age and sex not described) was identified by SSES in wetland 125. This finding, if not provided already, should be reported to the DEP's Natural Diversity Database.

The eastern box turtle (*Terrapene c. carolina*) utilizes open woodlots, and open areas such as old fields and clearings and transmission line right-of-ways. This species is rarely found far from wetlands, ponds or streams. This species is often found in the warm water of wet meadows or edges of woodland in the spring time which help it regulate its body temperature. This species also utilizes dry wooded areas commonly under leaf duff in the summer to escape from the solar radiation. Box turtles have a very small home range, typically around 600 feet.

The Species of Special Concern red-shouldered hawk (*Buteo lineatus*) has been reported by the Connecticut Department of Environmental Protection's Natural Diversity Database (NDDDB) to occur in the vicinity of Glen Lake in Woodbridge. The DEP recommends avoiding the area during the nesting season of February to July and that a sufficient undisturbed buffer zone be put in place once the nests are identified to further reduce the chance of disturbing the nesting behavior of this species.

The Applicant states (page L-46 Section L 3.7) that if avian surveys identify that a protected or special concern species is nesting near the ROW, construction would be scheduled so as to avoid the nesting season of February through July. However, the Application does not mention conducting wildlife surveys as part of the construction sequence and does not indicate who will be notified of the results. This information should be provided.

² Personal communication, Dr. Christopher Loscalzo, past president of New Haven Bird Club

IMPACT SUMMARY

A tabulation of wetland disturbance impacts is included below in *Table 1. Wetland Impact Summary* located in the Appendix. The table shows areas of wetland disturbances and areas of permanent wetland fills within the Woodbridge portion of the CL&P right of way resulting from the proposed 345 kV upgrade. Areas of disturbance and permanent wetland fills were determined using the 100 scale aerial photographs (Volume 11, Segments 104-126) and the stated size of potential impact areas resulting from pole installation and removal, access road construction and conductor pulling sites included in Volume 1, Sections J and K.

The table also includes potential indirect wetland impact areas where vernal pools and amphibian breeding pools were identified and areas where regrading on steep slopes could result in erosion and sediment impacts on wetlands or watercourses.

As can be seen from the table, there is a significant amount of wetland disturbance and permanent filling required for the upgrading the power line right of way within Woodbridge. Approximately 7.3 acres of wetlands will be disturbed and approximately 4.3 acres of wetlands will be permanently filled.

Our evaluation of the potential environmental impacts indicates that there is the potential for significant wetland and watercourse impacts associated with the proposal within the Town of Woodbridge, including the permanent loss of about 4 acres of wetlands. The submitted data do not support the conclusion in the Executive Summary of Volume 1 that “the project will not result in any significant long-term adverse environmental impacts.”

The Applicant’s consultants (SSES) did not identify any vernal pools within the ROW of Woodbridge. Our investigation identified five vernal pools and an additional well functioning amphibian breeding pool. The Application proposes work within and directly adjacent to these pools. Our identification of these vernal and breeding pools, which were not reported by the Applicant, requires modifications to the proposal to protect these sensitive systems.

The Applicant has proposed upgrading the existing overhead line which includes an estimated 7.3 acres of wetland disturbance. These disturbances include placing fill within 4.3± acres of wetlands, crossing watercourses and disturbance of identified well functioning vernal pools and an amphibian breeding area. The Applicant, however, has not provided alternatives to these impacts. It should be made clear that not all impacts can be effectively mitigated or restored and avoidance is always a preferred alternative.

From an environmental perspective, an underground route is preferred. The placement of the 345-kv line underground along existing public roads would eliminate the impact concerns of the overhead proposal set forth in the Application. The installation of an underground line is not expected to significantly impact wildlife along the route, as minimal alteration to vegetation is required. Access roads and pole installations, the major cause for concern in Woodbridge, would not be required. The only impact to the environment would be a narrow trench that will be placed along the existing roads.

Impacts to wetlands and watercourses due to crossings are expected to be significantly less than the overhead alternative. The reason for this is two fold. The first is that the

underground route follows existing roads, which typically cross narrow portions of wetlands and watercourses. The second reason is that most of these sensitive habitats have already been spanned allowing the transmission line to be attached to the various bridges and, therefore, greatly minimize the required impacts to these systems.

APPENDIX

Table 1. Wetland Impact Summary

Segment Number	Pole Numbers	Wetland Number	Proposed Wetland Disturbance Activity						Comments
			Access Road	Pole Removal	Pole Installation	Conductor Pulling Site	Area of Wetland Disturbance* (S.F.)	Area of Permanent Fill** (S.F.)	
104	3962	121		X	X		1,500	1,200	
106	3956-3957	122	X	X					
108	3952	123			X				
109	3949-3950	124	X				1,725	1,725	Breeding area
109	5150	124		X			10,000		Steep Slope/E&S
109	3950	124		X	X		3,000	2,100	
110	3947	125		X	X		2,000		
110	3947-3948	125	X				3,000	3,000	vernal pool
110	3946-3947	125	X				900	900	
111	3945-3946	126	X				450	450	
111	3944	127		X	X		3,750	2,500	
111	3943-3944	127	X				1,800	1,800	
112	2408	128	X	X			12,050		
116	3931	130		X	X		16,500	10,050	
116	2400	130		X			2,500		
117	3930-3931	130	X				8,400	8,400	vernal pool
117	3930	130		X	X		8,000	3,300	
117	3928-3929	131	X				2,250	2,250	
118	3928	131		X	X		10,500	7,500	
118	3926-3927	132	X				6,000	6,000	
118	3926	132		X	X		7,600	5,000	
119	3924	133		X	X	X	20,000	10,000	
119	3923	133		X	X		7,250	3,200	
120	2394	133	X	X			600		
120	3922	133		X	X		15,000	10,000	
120	3921	133		X	X		12,000	10,000	
120	3921-3922	133	X				7,000	7,000	
120	3920-3921	133	X				5,400	5,400	
121	3920	133		X	X		15,000	10,000	

Segment Number	Pole Numbers	Wetland Number	Proposed Wetland Disturbance Activity					Comments	
			Access Road	Pole Removal	Pole Installation	Conductor Pulling Site	Area of Wetland Disturbance* (S.F.)		Area of Permanent Fill** (Sq. Ft.)
121	3919	133		X	X		12,000	10,000	
121	5119	133		X			10,000		
121	3918	133		X	X		15,000	10,000	vernal pool
121	3918-3919	133	X				7,500	7,500	
121	5117	133		X			5,000		vernal pool
122	3917	133		X	X		15,000	10,000	vernal pool
122	3915	134		X	X		2,400	1,000	
123	3915, 5114,	135		X	X		4,000	2,000	
123	3914	135		X	X		10,500	5,000	
124	3910	137		X	X		9,500	7,500	
124	3909	137		X			7,800		
124	3908-3909	138	X				7,500	7,500	
125	3908	138		X	X		16,500	10,000	vernal pool
125	3907	138		X	X		6,000	3,000	vernal pool
125	2382	138		X			3,000		
		Total					315,875 sf 7.3 acres	185,275 sf 4.3 acres	

* Area of Wetland Disturbance = 15 foot wide access road (Vol. 1, Section K.1), 100 by 100 foot disturbance area around existing and new poles (Vol. 1, Section J.1), Conductor Pulling Sites are 75 feet wide by 200 feet long (Response to Interrogatories, dated 4/7/04)

** Area of Permanent Fill = 40 foot radius to be cleared and graded around each structure and guy wire location (Vol. 1, Section J.1.3), assume access roads through wetlands to remain in order to provide permanent pole access.